

**Figure 1**

**scFv m6 fragment (SEQ ID NO:1)**

VLTQSPGTL SLSAGERATL SCRASQSVSSGSLAWYQQKPGQAPRLLIYGASTRATG  
IPDRFSGSGSGTDFTLTIGRLEPEDLAVYYCQQYGTSPYTFGQGTKLEIKRTGGGGS  
GGGASGGGGSVRLLEQSGAEVKKPGSSVQVSCASGGTFSMYGVNWVRQAPGH  
GLEWMGGIIPFGTSNYAQKFRGRVTFTADQATSTAYMELTNLRSDDTAVYYCAR  
DFGPDWEDGDSYDGSGRGFFDFWGQGTLVTVSS

**scFv m9 fragment (SEQ ID NO:2)**

VLTQSPGTL SLSAGERATL SCRASQSVSSGSLAWYQQKPGQAPRLLIYGASTRATG  
IPDRFSGSGSGTDFTLTIGRLEPEDLAVYYCQQYGTSPYTFGQGTKLEIKRTGGGGS  
GGGGSGGGGSVQLLEQSGAEVKKPGSSVQVSCAFGGTFSMYGFNWVRQAPGH  
GLEWMGGIIPFGTTNYAQKFRGRVTFTADQATSTAYMELTNLRSDDTAVYYCAR  
DFGPDWEGGDSYDGSGRGFFDFWGQGTLVNVSS

**Flexible linker 1 (of m6Fc1, m9Fc1 m12Fc1, m14Fc1, m16Fc1, m18Fc1) (SEQ ID NO:3)**

PDPEEPKSCDKTHTCPPCP

**Flexible linker 2 (of m6Fc2 and m9Fc2) (SEQ ID NO:4)**  
EPKSCDKTHTCPPCPPDPEEPKSCDKTHTCPPCP

**IgG1 Fc region (CH2-CH3) (SEQ ID NO:5)**

APELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVH  
NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKA  
KGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT  
PPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEALHNHYTQKSLSLSPG

**m6Fc1 Amino Acid Sequence (SEQ ID NO:6)**

VLTQSPGTL SLSAGERATL SCRASQSVSSGSLAWYQQKPGQAPRLLIYGASTRATG  
IPDRFSGSGSGTDFTLTIGRLEPEDLAVYYCQQYGTSPYTFGQGTKLEIKRTGGGGS  
GGGASGGGGSVRLLEQSGAEVKKPGSSVQVSCASGGTFSMYGVNWVRQAPGH  
GLEWMGGIIPFGTSNYAQKFRGRVTFTADQATSTAYMELTNLRSDDTAVYYCAR  
DFGPDWEDGDSYDGSGRGFFDFWGQGTLVTVSSPDPEEPKSCDKTHTCPPCPAPE  
LLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAK  
TKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQP  
REPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPPVLD  
SDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEALHNHYTQKSLSLSPG

**m6Fc2 Amino Acid Sequence (SEQ ID NO:7)**

VLTQSPGTL SLSAGERATL SCRASQSVSSGSLAWYQQKPGQAPRLLIYGASTRATG  
IPDRFSGSGSGTDFTLTIGRLEPEDLAVYYCQQYGTSPYTFGQGTKLEIKRTGGGGS  
SGGASGGGGSVRLLEQSGAEVKKPGSSVQVSCASGGTFSMYGVNWVRQAPGH  
GLEWMGGIIPFGTSNYAQKFRGRVTFTADQATSTAYMELTNLRSDDTAVYYCAR  
DFGPDWEDGDSYDGSGRGFFDFWGQGTLVTVSSPEPKSCDKTHTCPPCPPDPEEPK  
SCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKF

NWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

**m9Fc1 Amino Acid Sequence (SEQ ID NO:8)**

VLTQSPGTLTSLASGERATLSCRASQSVSSGSLAWYQQKPGQAPRLLIYGASTRATGIPDRFSGSGSGTDFTLTIGRLEPEDLAVYYCQQYGTSPYTFGQGTKLEIKRTGGGSGGGGSGGGGSGVQLLEQSGAEVKKPGSSVQVSCKAFFGGTFSMYGFNWVRQAPGHGLEWMGGIIFGTNTYAQKFRGRVTFTADQATSTAYMELTNLRSDDTAVYYCARDFGPDWEGGDSYDGSGRGFFDFWGQGTLLNVSSPDPEEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

**m9Fc2 Amino Acid Sequence (SEQ ID NO:9)**

VLTQSPGTLTSLASGERATLSCRASQSVSSGSLAWYQQKPGQAPRLLIYGASTRATGIPDRFSGSGSGTDFTLTIGRLEPEDLAVYYCQQYGTSPYTIGQGTKLEIKRTGGGSGGGGSGGGGSGVQLLEQSGAEVKKPGSSVQVSKASGGTFSMYGFNWVRQAPGHGLEWMGGIIFGTNTYAQKFRGRVTFTADQATSTAYMELTNLRSDDTAVYYCARDFGPDWEGGDSYDGSGRGFFDFWGQGTLLNVSSPEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

**scFv X5 fragment (SEQ ID NO:10)**

VLTQSPGTLTSLASGERATLSCRASQSVSSGSLAWYQQKPGQAPRLLIYGASTRATGIPDRFSGSGSGTDFTLTIGRLEPEDLAVYYCQQYGTSPYTFGQGTKLEIKRTGGGSGGGGSGGGGSGVQLLEQSGAEVKKPGSSVQVSKASGGTFSMYGFNWVRQAPGHGLEWMGGIIFGTNTYAQKFRGRVTFTADQATSTAYMELTNLRSDDTAVYYCARDFGPDWEDGDSYDGSGRGFFDFWGQGTLLTVSS

**scFv m12 fragment (SEQ ID NO:11)**

TLTQSPPTLSASPGERVILSCRASQSVSSSHLAWYQQRPGQTPRLLIYSSSSRAAGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQNQGFSRFFFGPGTTVDMKRGGGGSGGGGSGGGGSGVQLLESGLPVKPSQSLSLTCAISGDSLSDSTAWNWRQSPSRGLEWLGRTYYRSTWFYDYAESVKSRLINPDTSKSQFSLQLRSVTPEDTAVYYCARDFNKGAGYNWFDPWGPVTVSS

**scFv m14 fragment (SEQ ID NO:12)**

ELTQSPGTLTSLSPGERATLSCRAHSVSRAYLAWYQQKPGQAPRLLIYGTSSRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQYGGSPWFGQGTKVELKRGGGGSGGGGSGGGGSGVQLLESGLPVKPSQSLTCTVSGGSISTGDYYWSWRQSPGKGLIEWIGYISSSGNTYYNPSLTSRVVISFDTSMNQFSLKVDVTAADTAVYYCARERRVLLWLGFPRGGLDYWGQGTLLTVSS

**scFv m16 fragment (SEQ ID NO:13)**

MTQSPSSVSASVGDRVITICRASQGISSWLAWYQQKPGKAPKLLINAASSLQSGV  
PSRFGSGSGTDFTLTISLQPEDFATYYCQQANSFPLTFGGGTKEIKRGGGGSGG  
GGSGGGGGSVQLLES GA EVKRP GSSVRVSCQVSGGSFSNYAVSWVRQTPGHGLEW  
MGGIIPMFNAPNYAQKFHGRVTFIADSTRTVHME LRSLRSED TAVYFCATASEA  
TENDYYQSPTHYYAMDVWGQGTAVTVFSS

**scFv m18 fragment (SEQ ID NO:14)**

QMTQSPSFLSASVGDRVSITCRASQDIQKFLAWYQLTPGDAPKLLMYSASTLQSG  
VPSRFGSGSGTEFTLTISGLQPEDFATYYCQHLKRYPTYTFGQGTKEISRGGGGSG  
GGSGGGGGSVQLLES GPGVVKPSETLSLTCTVSGASVNNYYWTWVRQPPGKGLE  
WIGNVYDSGDTNYPNPSLSSRLSLMDTSKNQFSLRLSSVTAADTATYYCARYHRH  
FIRGPLSFDYWGRGTLVTVSS

**m12Fc1 Amino Acid Sequence (SEQ ID NO:15)**

TLTQSPTTLSASPGERVILSCRASQSVSSSLAWYQQRPGQTPRLLIYSSSSRAAGIP  
DRFGSGSGTDFTLTISRLEPEDFAVYYCQNGFSPRFFFGPGTTVDMKRGGGGSG  
GGSGGGGGSVQLLES GPGLVKPSQSLSLTCAISGDSLSSDSTAWNWRQSPSRGLE  
WLGRTYRSTWFDYAESVKSRININPDTSKSQFSLQLRSVTPEDTAVYYCARDF  
NKGAGYNWFDPWGPGTVTVSSPDPEEPKSCDKTHTCPPCPAPELLGGPSVFLFP  
PKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNS  
TYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPP  
SRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSK  
LTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

**m14Fc1 Amino Acid Sequence (SEQ ID NO:16)**

ELTQSPGTLSPGERATLSCRASHSVSRAYLAWYQQKPGQAPRLLIYGTSSRATG  
IPDRFGSGSGTDFTLTISRLEPEDFAVYYCQQYGGSPWFGQGTKEIKRGGGGSG  
GGSGGGGGSVQLLES GPGLVKPSQTLSTCTVSGGSISTGDYYWSWIRQSPGKGL  
EWIGYISSSGNTYYNPSLTSRVVISFDTSMNQFSLKVDSTAAADTAVYYCARERRV  
LLWLGFPRGGLDYWGQGTTLTVSSPDPEEPKSCDKTHTCPPCPAPELLGGPSVFLF  
PPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYN  
STYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPP  
SRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYS  
KLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

**m16Fc1 Amino Acid Sequence (SEQ ID NO:17)**

MTQSPSSVSASVGDRVITICRASQGISSWLAWYQQKPGKAPKLLINAASSLQSGV  
PSRFGSGSGTDFTLTISLQPEDFATYYCQQANSFPLTFGGGTKEIKRGGGGSGG  
GGSGGGGGSVQLLES GA EVKRP GSSVRVSCQVSGGSFSNYAVSWVRQTPGHGLEW  
MGGIIPMFNAPNYAQKFHGRVTFIADSTRTVHME LRSLRSED TAVYFCATASEA  
TENDYYQSPTHYYAMDVWGQGTAVTVFSSPDPEEPKSCDKTHTCPPCPAPELLG  
GPSVFLFPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKP  
REEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREP  
QVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSD  
GSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG

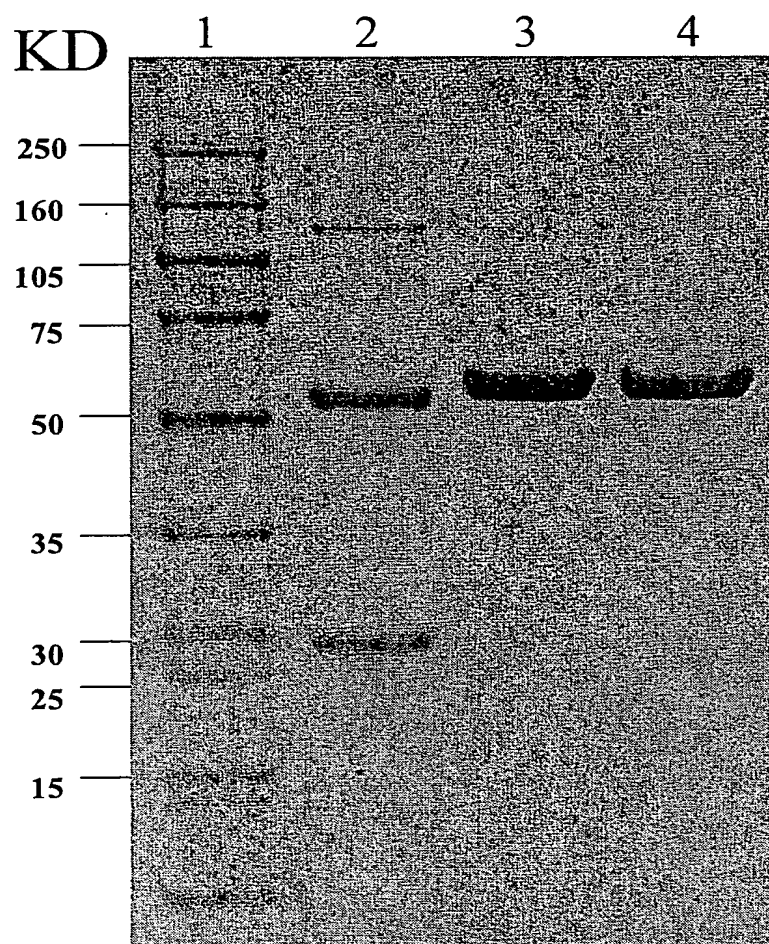
**m18Fc1 Amino Acid Sequence (SEQ ID NO:18)**

QMTQSPSFLSASVGDRVSITCRASQDIQKFLAWYQLTPGDAPKLLMYSASTLQSG  
VPSRFGSGSGSGTEFTLTISGLQPEDFATYYCQHLKRYPTYTFGQGTKLEISRGGGGSG  
GGGSGGGGGSVQLLES GPGVVKPSETLSLTCTVSGASVNYYWTWVRQPPGKGLE  
WIGNVYDSGDTNYPNPSLSSRLSLSMDTSKNQFSLRLSSVTAADTATYYCARYHRH  
FIRGPLSFDYWGRGTLVTVSSPDPEEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKP  
KDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYR  
VVSVELTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRD  
ELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTV  
DKSRWQQGNVFCFSVMHEALHNHYTQKSLSLSPG

**Optional Leader Sequence (SEQ ID NO:19)**

MPMGS LQPLATLYLLGMLVASVLA

Figure 2



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